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Ing et al.

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(54) **DEBRIS CATCHING APPARATUS**

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A47D 15/00 (2006.01)
A47D 1/00 (2006.01)

(52) **U.S. Cl.**
CPC ***A47D 15/00*** (2013.01); ***A47D 1/008*** (2013.01)

(58) **Field of Classification Search**
CPC A47C 1/04; A47D 1/008
USPC 297/188.08, 188.12, 188.13, 188.2, 297/219.12, 182
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

837,570	A *	12/1906	Jackson	297/182
2,585,434	A *	2/1952	Caponera	297/182
2,827,953	A *	3/1958	Jones	297/182
2,938,574	A *	5/1960	Brown	297/182
3,298,736	A *	1/1967	Decker	297/182
4,094,547	A *	6/1978	Zampino et al.	297/182
5,549,353	A *	8/1996	Gaudet et al.	297/182
6,652,947	B2 *	11/2003	Sweeney et al.	428/43
6,796,606	B2 *	9/2004	Marshall	297/182
7,717,504	B2 *	5/2010	Centracco et al.	297/136
7,891,731	B2 *	2/2011	O'Toole	297/182
8,042,241	B2 *	10/2011	McConnell et al.	29/91.1
8,840,177	B2 *	9/2014	Ballard et al.	297/182
2002/0037387	A1 *	3/2002	Sweeney et al.	428/43
2008/0185881	A1 *	8/2008	Romaniuk et al.	297/182
2009/0127917	A1 *	5/2009	Foenander	297/463.1

* cited by examiner

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(57) **ABSTRACT**

A debris catching apparatus which has an inner rim, a receiver, an outer rim, an outer lip, a top fastening mechanism, and a bottom fastening mechanism. The apparatus is attachable to a chair to catch food debris dropped or thrown by a child.

1 Claim, 5 Drawing Sheets

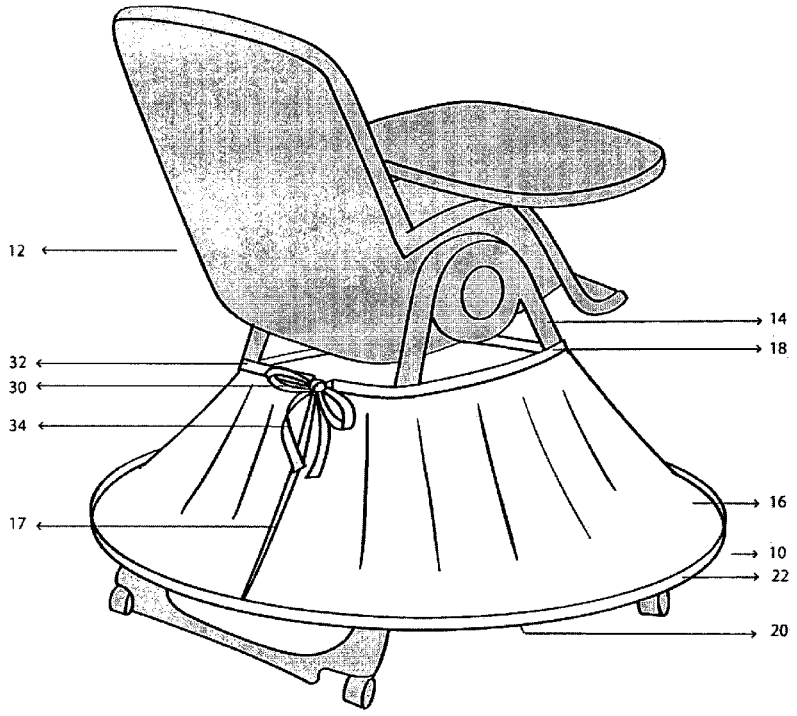


Figure 1

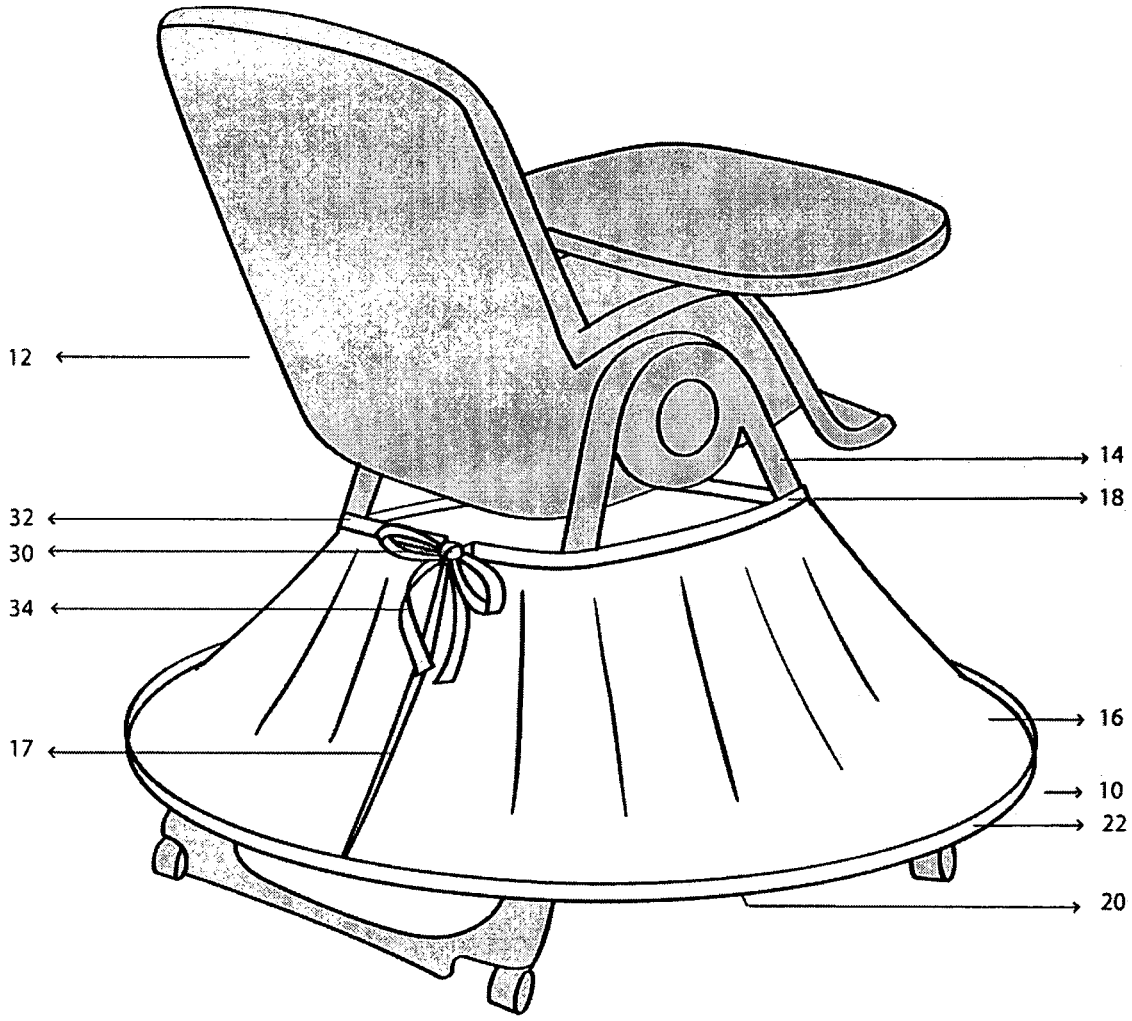


Figure 2

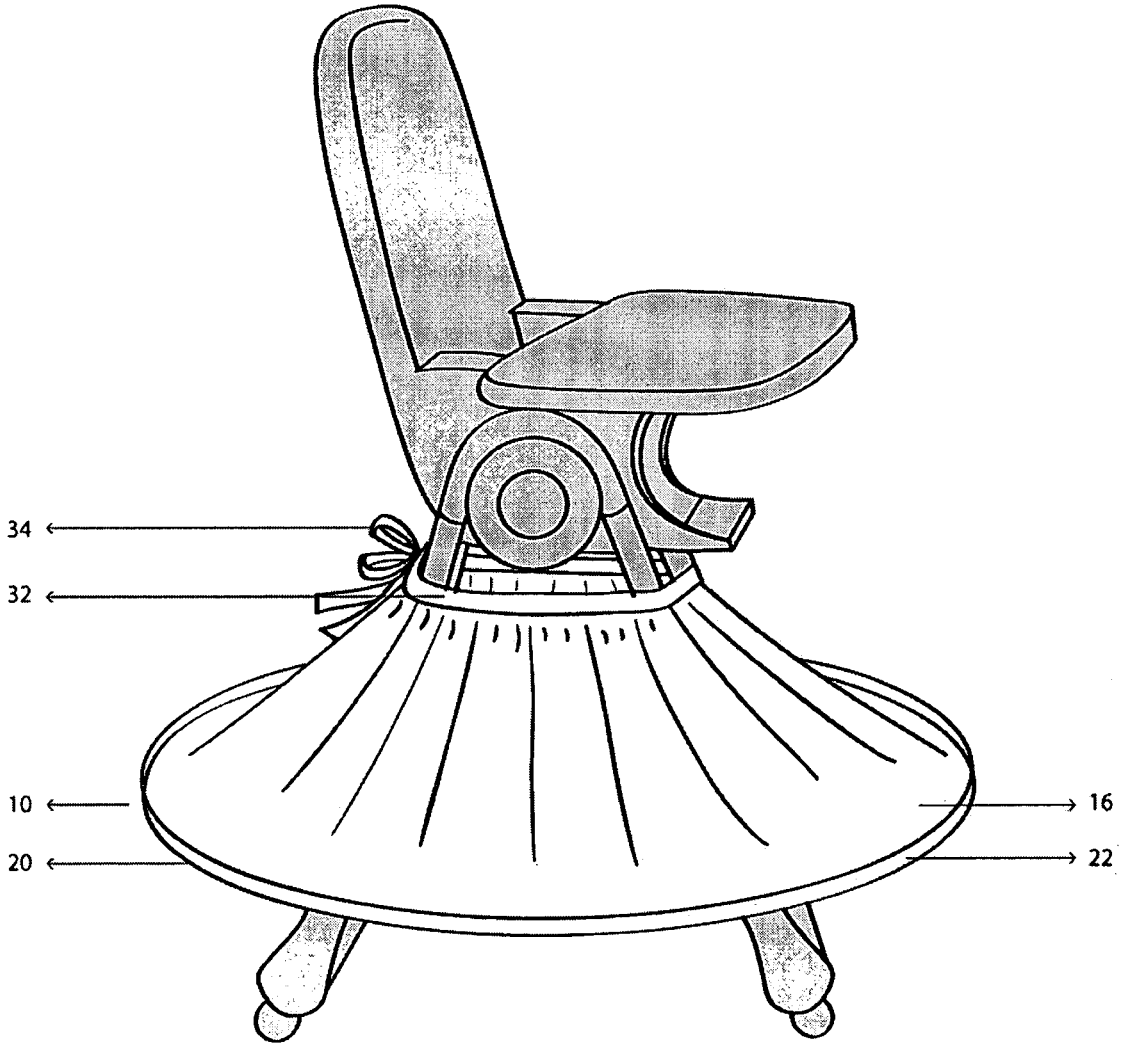
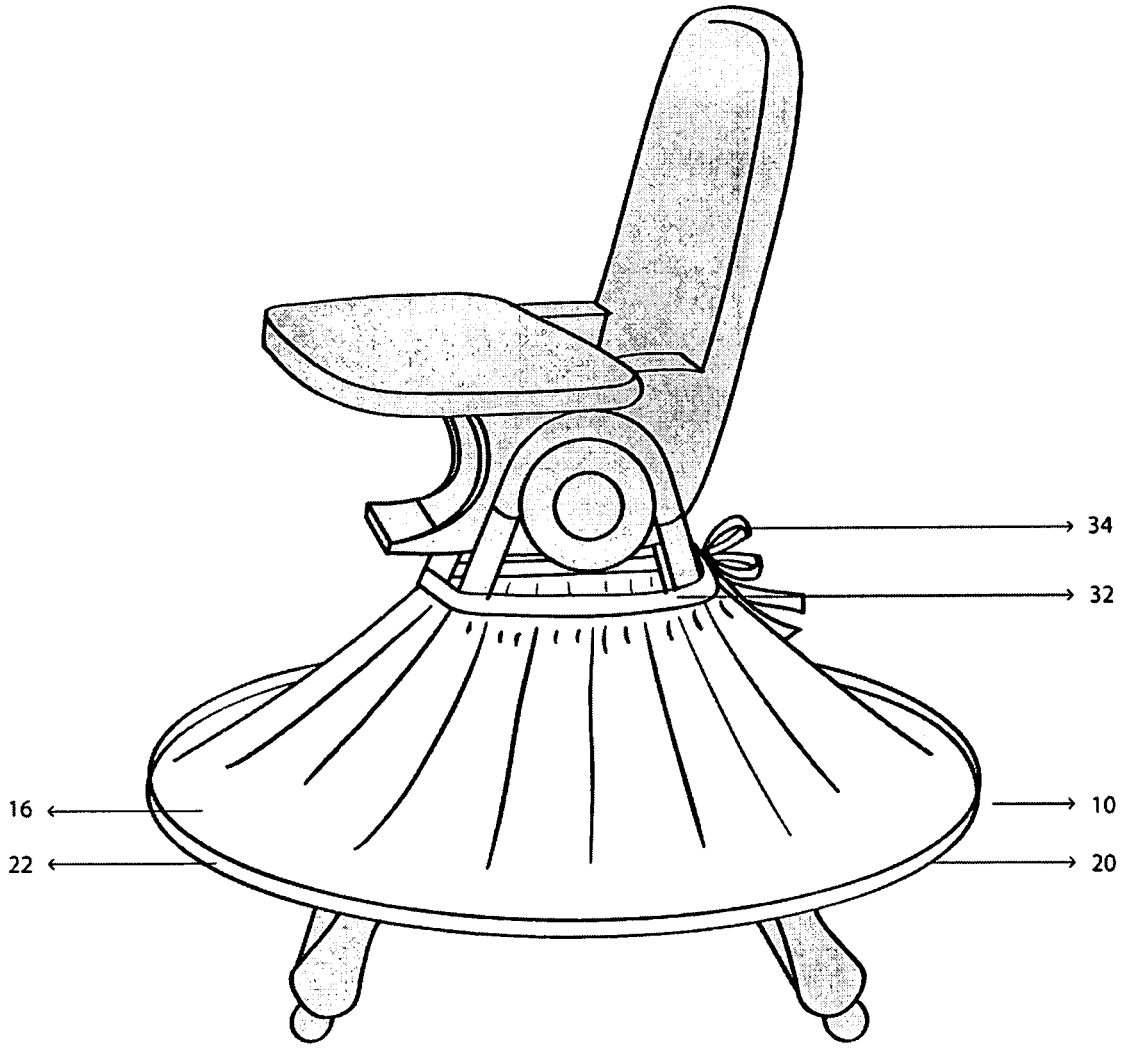


Figure 3



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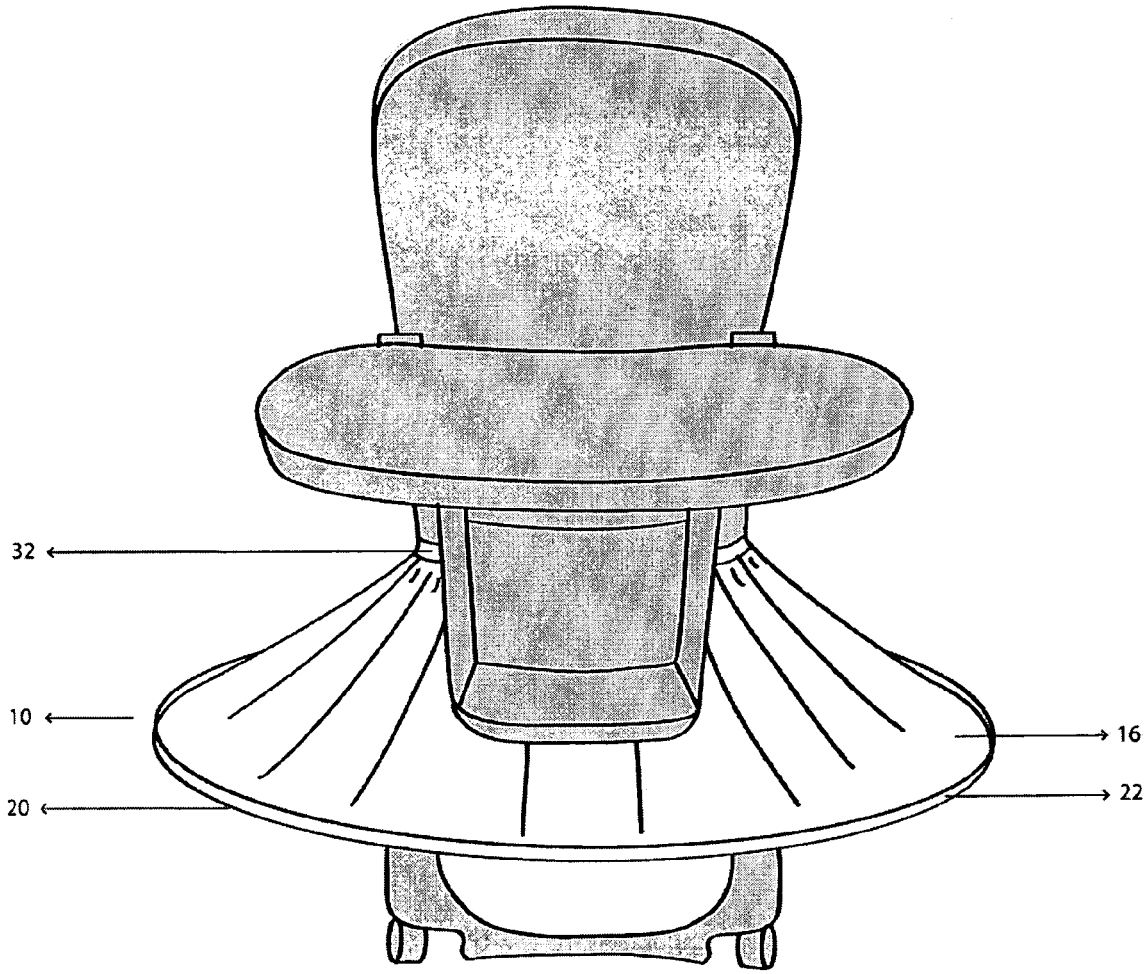


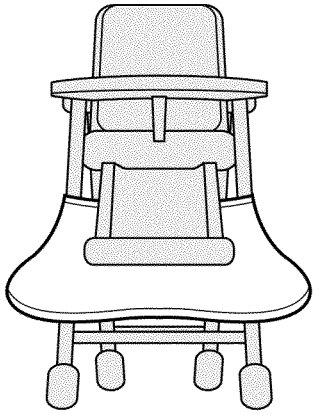
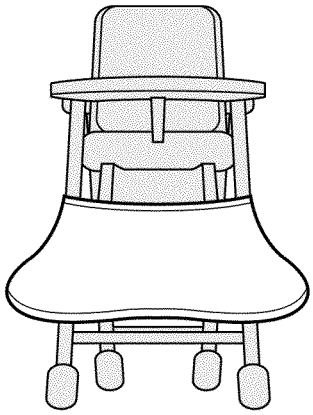


Figure 5A



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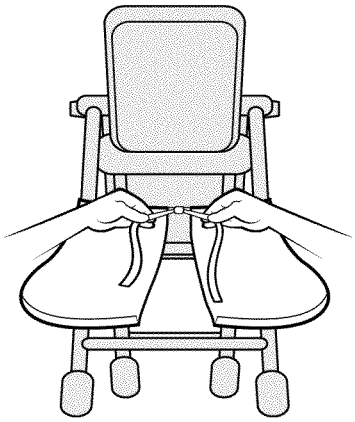

Figure 5C

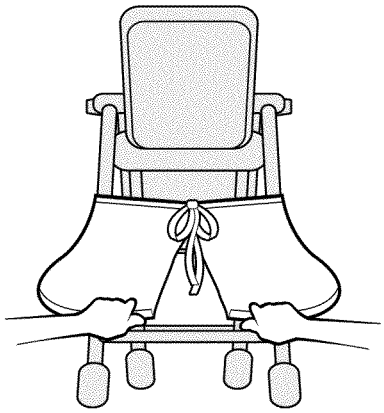

Figure 5D

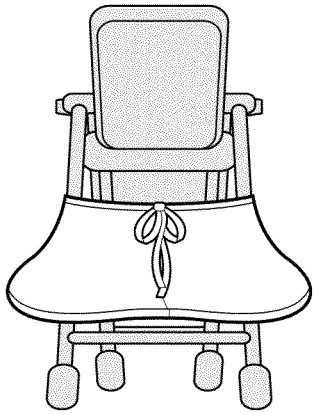

Figure 5E

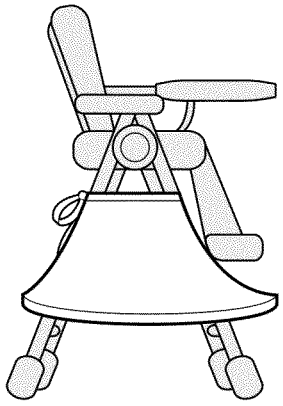

Figure 5F

DEBRIS CATCHING APPARATUS

This application claims priority to U.S. Provisional Application No. 61/749,203, filed Jan. 4, 2013, incorporated entirely by reference.

BACKGROUND

The present disclosure relates generally to chairs and seats. In particular, debris catching apparatuses for children's highchairs. Young children relegated to the confines of a highchair during meal times invariably drop, spill, or even throw foodstuff onto the floor and other nearby surfaces. Parents and others are often tasked with coming in and cleaning up after the child once they've finished their meal. This may include not only picking up the thrown foodstuff, but sweeping and mopping the floor as well. A common way of protecting the floor is to place a mat or sheet under the child and the chair. However, cleaning this mat or sheet can be just as tedious and time consuming as cleaning the floor.

An alternative method for dealing with this dilemma is to attach some sort of device to the highchair that catches the thrown or dropped foodstuff. However, many of these devices are limited to catching the discarded foodstuff in a certain place, and even when the foodstuff is caught, that device still needs to be thoroughly cleaned. The cleaning of these conventional types of apparatuses are often just as labor intensive and time consuming as cleaning the floor or even a mat or a sheet placed under the child's highchair.

Known debris catching apparatuses are not entirely satisfactory for the range of applications in which they are employed. For example, existing debris catching apparatuses are not easily adjustable to fit a wide variety of children's highchairs. In addition, conventional debris catching apparatuses are not conveniently portable nor are they machine washable.

Thus, there exists a need for debris catching apparatuses that improve upon and advance the design of known debris catching apparatuses. Examples of new and useful debris catching apparatuses relevant to the needs existing in the field are discussed below.

BRIEF DESCRIPTION OF THE FIGURES

FIG. **1** is a rear perspective view of a first example of a debris catching apparatus.

FIG. **2** is a left-side perspective view of the debris catching apparatus shown in FIG. **1**.

FIG. **3** is a right-side perspective view of the debris catching apparatus shown in Fig.

FIG. **4** is a front perspective view of the debris catching apparatus shown in FIG. **1**.

FIGS. **5**A, **5**B, **5**C, **5**D, **5**E are a front perspective view of the debris catching apparatus during attachment and after attachment to a high chair. FIG. **5**F is a side perspective view.

DESCRIPTION

The disclosed debris catching apparatuses will become better understood through review of the following detailed description in conjunction with the figures. The detailed description and figures provide merely examples of the various inventions described herein. Those skilled in the art will understand that the disclosed examples may be varied, modified, and altered without departing from the scope of the inventions described herein. Many variations are contemplated for different applications and design considerations; however, for the sake of brevity, each and every contemplated variation is not individually described in the following detailed description.

Throughout the following detailed description, a variety of debris catching apparatus examples are provided. Related features in the examples may be identical, similar, or dissimilar in different examples. For the sake of brevity, related features will not be redundantly explained in each example. Instead, the use of related feature names will cue the reader that the feature with a related feature name may be similar to the related feature in an example explained previously. Features specific to a given example will be described in that particular example. The reader should understand that a given feature need not be the same or similar to the specific portrayal of a related feature in any given figure or example.

With reference to FIG. **1**, a debris catching apparatus **10** includes a receiver **16**, an inner rim **18**, an outer rim **20**, an outer lip **22**, and a top fastening mechanism **30**. Debris catching apparatus **10** functions to attach to a chair **12** in a manner that substantially surrounds the perimeter chair **12** in order to catch any falling or thrown foodstuff.

In use, a user may secure apparatus **10** to a high chair to catch dropped or thrown food. After a meal or on a periodic or as-needed basis, the user may wipe down receiver **16** with a wet cloth. Any food collected by receiver **16** will be collect against outer rim **20**, which enables the user to readily transfer the food to a waste bin.

In one embodiment, the user can readily remove apparatus **10** from the high chair and wash apparatus in a washing machine, or sink.

As can be seen in FIGS. **1**-**4**, receiver **16** is an expanse of material extending between inner rim **18** and outer rim **20**. A rear opening **17** extends from an opening in inner rim **18** downward towards outer rim **20** and allows apparatus **10** to easily encircle the lower portion of a chair **12**, which in turn allows apparatus **10** to be attached to legs **14** of chair **12**. In other embodiments, the debris catching apparatus may be attached to the base of the chair or any other portion of the chair that is located near the chair's seat, beneath where a child will sit. For example, at a restaurant, the debris catching apparatus could be secured near the base of a booster seat set on a conventional chair.

In one embodiment, receiver **16** is a singularly constructed piece of material and is attached to chair **12** through rear opening **17**. Upon proper mounting of apparatus **10**, rear opening **17** becomes substantially closed. In one embodiment, receiver **16** is manufactured from ripstop nylon. Alternatively, the receiver may be made from a washable-type material including, but not limited to, polyethylene vinyl acetate (PEVA). In yet another embodiment, the receiver may also be made from a disposable material, such as wax paper.

When apparatus **10** is affixed to legs **14**, receiver **16** is able to naturally extend a substantial distance beyond the outer perimeter of chair **12** due to the circumference of outer rim **20** being greater than the circumference of inner rim **18**. In one embodiment, the shape of apparatus **10** when affixed to chair **12** is substantially circular. In other embodiments, the apparatus may be of a variety of different shapes including, but not limited to, elliptical, rectangular and irregular.

In reference to FIGS. **1** and **4**, outer rim **20** further defines an outer lip **22** that extends rigidly upward due to a rigid insert (not shown) sewn into a fabric seam of outer lip **22**. More specifically, rigid insert is secured between the folds of a strip of material that constitutes outer lip **22** and completely traverses the circumference of outer rim **20** while functioning to collect any foodstuff that falls onto receiver **16**. In other embodiments, the outer lip extends around a portion of the

outer rim and the rigid insert is attached to the exterior of the outer lip instead of being sewn into a fabric seam. In still further embodiments, the outer rim includes multiple sections spaced from one another, such as a front section and a rear section and/or side sections.

In one embodiment, rigid insert is made from a plastic material. Alternatively, the rigid material may be made from any other known or later developed lightweight, pliable material.

With continuing reference to FIG. **1**, a top fastening mechanism **30** functions to secure inner rim **18** of apparatus **10** to chair **14**. Top fastening mechanism **30** further includes a drawstring sleeve **32** and a drawstring **34**. Drawstring sleeve **32** is a sewn-in fabric seam disposed adjacent inner rim **18** and substantially traverses the circumference of inner rim **18**. Drawstring sleeve **32** is configured to receive drawstring **34**. Drawstring **32** functions to tighten inner rim **18** around legs **14**, securely mounting apparatus **10** to chair **12**. Alternatively, in other embodiments, the inner rim of the debris catching apparatus may be mounted using other types of fastening mechanisms, including, but not limited to hook and loop mechanisms, and button-snapping mechanisms.

In one embodiment, outer rim **20** is not continuous and a bottom fastening mechanism functions to secure outer rim **20** of apparatus **10**. The bottom fastening mechanism may further include at least two hook-and-loop members disposed on opposing ends of outer rim **20**. Hook-and-loop members function to close outer rim **20** of apparatus **10** by being mated to each other.

In a further embodiment, the bottom fastening mechanism is configured to allow adjustment of the circumference of outer rim **20**. Opposing ends of outer rim **20** can be adjustably secured closer together, thereby decreasing the circumference, or adjustably secured further apart, allowing for the circumference to be increased. Thus, apparatus **10** may be adjustable to a variety of chairs having different shapes and sizes. Alternatively, in other embodiments, the outer rim of the debris catching apparatus may be closed using other types of fastening mechanisms, including, but not limited to drawstring mechanisms or button-snapping mechanisms.

In a further embodiment, as seen in FIG. **1**, outer rim **20** comprises a continuous piece of material, such as spring steel, or a secured piece of material. In this embodiment, rear opening **17** does not extend all the way from inner rim **18** to outer rim **20** and there is no bottom fastening mechanism. In another embodiment, outer rim **20** may optionally be adjustable. Also in this embodiment, receiver **16** may either have rear opening **17** or be continuous with no opening. Inner rim **18** is substantially as described previously.

The disclosure above encompasses multiple distinct inventions with independent utility. While each of these inventions has been disclosed in a particular form, the specific embodiments disclosed and illustrated above are not to be considered in a limiting sense as numerous variations are possible.

Where the disclosure or subsequently filed claims recite "a" element, "a first" element, or any such equivalent term, the disclosure or claims should be understood to incorporate one or more such elements, neither requiring nor excluding two or more such elements.

Example 1

Attaching Bib to Highchair

In an embodiment, the bib is attached to a highchair by first wrapping the bib around the base of the highchair and pulling the drawstrings around the back. In one embodiment, the front of the bib is under the leg rest, as shown in FIG. **5**A. In an alternative embodiment the front of the bib is over the leg rest, as shown in FIG. **5**B. Tie the drawstrings together in the back to secure the highchair bib, as shown in FIG. **5**C. Attach the bottom of the adjustable highchair bib with the hook and loop (e.g. Velcro®) attachments, shown in FIG. **5**D. When adjusted correctly, there will be a "gutter" to catch food. If necessary, adjust the highchair bib so that it hangs level with the floor. A correctly attached bib is shown in FIGS. **5**E and **5**F.

Example 2

Attaching Bib to Chair

In another embodiment, the bib is attached to a conventional chair, such as at a restraint, as substantially described in Example 1. Inner rim **18** is secured near the edge of the seat, or at the base of a booster seat if one is used.

Example 3

Attaching Bib to Highchair, Continuous Outer Rim

In an embodiment, the bib is attached to a highchair by unfolding the outer rim accordion style, similar to how many automobile sun shades unfold. The outer rim is placed over the chair so that it is below the chair seat. The inner rim is secured near the seat by tying the draw strings together in the back to secure the bib. When attached correctly, there will be a "gutter" to catch food and the bib will look substantially like FIGS. **5**E and **5**F.

The invention claimed is:

1. A debris catching apparatus for securing to a chair wherein the chair has a chair seat, an outer perimeter, and a lower portion, the debris catching apparatus comprising an inner rim with a top, a receiver, an outer rim, an outer lip, and a top fastening mechanism,

wherein the apparatus comprises a front portion, two side portions and a rear portion,

wherein the inner rim is adapted to be secured to the chair near the chair seat the top fastening mechanism,

wherein the receiver comprises an expanse of material extending between the inner rim and the outer rim,

wherein the outer rim is lower than the inner rim when secured to the chair such that the expanse of material between the inner rim and outer rim extends downward at an angle of greater than 45 degrees from a horizontal plane extending from the top of the inner rim,

wherein the outer rim is greater in circumference than the inner rim so that the receiver and outer rim extend substantially beyond the outer perimeter of the chair,

wherein the outer lip extends upwards from the outer rim at least along the side and front portions of the apparatus,

wherein the inner rim comprises an opening that allows the lower portion of the chair to be encircled,

wherein the inner rim comprises the top fastening mechanism on each side of the opening, and,

wherein the outer rim is substantially circular and comprises a continuous piece of spring steel with no opening.

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